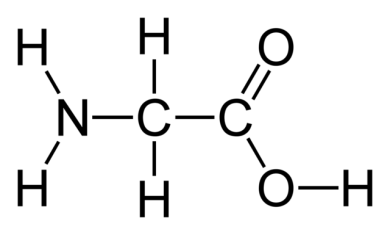
Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_

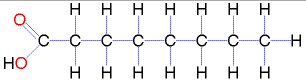
**Notes Questions for the Unit 4 Notes, Part 3 – Macromolecules (Section A)**

Mrs. Krouse, AP Biology

***Practice Questions:*** *Answer the following questions thoroughly and accurately.*



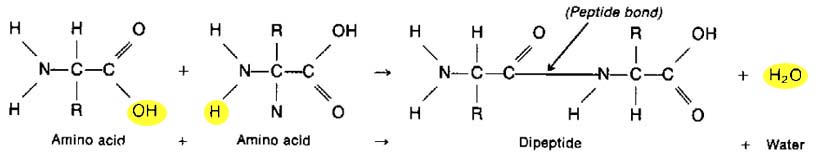
1. Identify the functional groups shown in the molecule pictured to the right. Would you assume that this molecule is polar or nonpolar and why?



1. Identify the functional groups shown in the molecule pictured to the right. Would you assume that this molecule is polar or nonpolar and why?
2. Explain how estrogen and testosterone provide evidence that small changes in molecular structure can result in large changes in function. Answer in your OWN WORDS.
3. Compare and contrast dehydration synthesis and hydrolysis in the chart below.

|  |  |  |
| --- | --- | --- |
| **Dehydration Synthesis Only** | **Similarities between Dehydration Synthesis and Hydrolysis** | **Hydrolysis Only** |
|  |  |  |

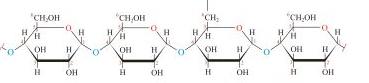
4. Identify the monomers and dimer in the image below. Is this image showing dehydration synthesis or hydrolysis? How do you know?



1. Compare and contrast carbohydrates and lipids using the chart below.

|  |  |  |
| --- | --- | --- |
|  | Carbohydrates | Lipids |
| Elements Present |  |  |
| Functions |  |  |
| Monomers (Name and/or Examples) |  |  |
| Polymers (Name and/or Examples) |  |  |

1. Identify each of the following images of polysaccharide as glycogen, starch, or cellulose. Explain how you identified them.

Image A: 

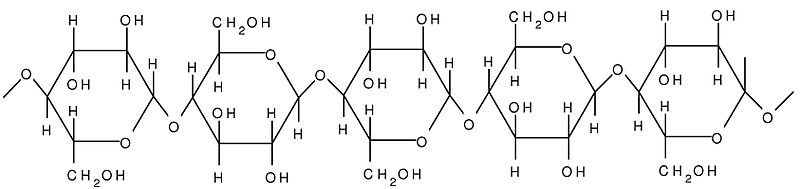
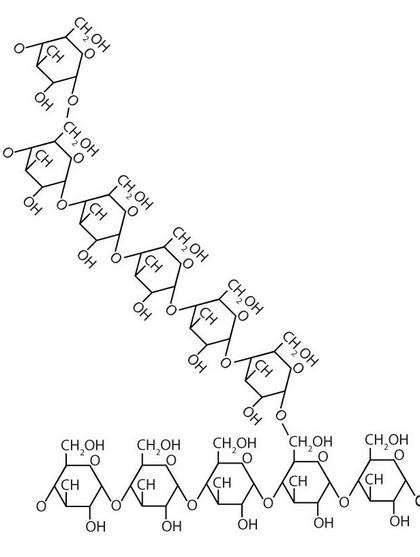
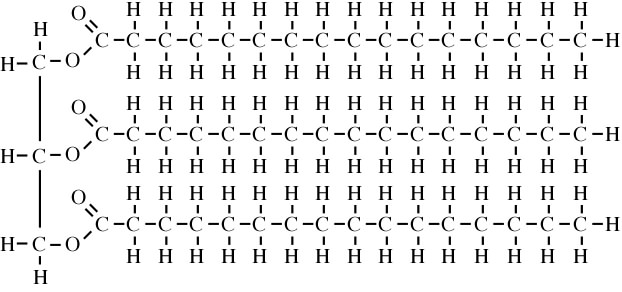
Image B:

Image C:

1. Explain how the structure of cellulose contributes to its function.
2. Label the glycerol and fatty acids in the image of a fat (aka triglyceride) shown below. Is this a saturated or unsaturated fat, and how do you know?



1. Will the fat pictured above be liquid or solid at room temperatures? Explain your answer.
2. How do phospholipid molecules arrange themselves in the cell membrane? Explain why they arrange themselves in this way, and draw a picture of the cell membrane in the box given below.
3. Are phospholipid molecules typically saturated or unsaturated? Explain your answer.